BCC Quick Reference

Getting Started

- Start a Technician Interface session with the router by connecting a PC or ASCII terminal to the router's console port or through a dial-up connection.
- Enter **Manager** at the login prompt, then enter **bcc** to start a BCC™ session, then enter **config** to enter configuration mode.
- A BCC configuration is a hierarchy of *objects* representing interfaces, protocols, and other entities. The hierarchy starts at the root object (*box* for AN, BN, and ARN; *stack* for ASN and System 5000) and cascades down to lower objects (see Figure 1 on the next page).
- Objects have attributes called *parameters*, with values that you can change. Some objects have required parameters; the BCC prompts you to enter values for required parameters.
- Enter the **?** command to display a list of the objects that you can configure next. Enter the **info** command to display the parameters and their values for the current object.
- Some protocols (for example, IP) have both *global* and *interface-level* objects that configure different aspects of the protocol.
- Configure interface-specific protocols by configuring the interface first, then the protocol. For example, configure an *ethernet* interface, then add *ip*.
- Configure a new object by entering only the object's name. For example, to configure Telnet, enter **telnet** (*not* **config telnet** or **set telnet**).
- Configure global protocols, such as *telnet*, that apply to the whole router at the *box* or *stack* prompt.
- Configure an *ethernet* interface on a specific connector and slot. For example, enter **ethernet slot 2 connector 1** or **eth 2/1**. Note that a slash (**/**) must separate parameter values.
- Configure *ip* at the interface level with a specific IP address and subnet mask. For example, enter either of these commands:
  -- ip address 192.184.68.24 mask 255.0.0.0
  -- ip 192.184.68.24/255.0.0.0
- Enter show commands (for statistical information) and help commands at any level of the object hierarchy. You do not need to change to another mode to use these commands.

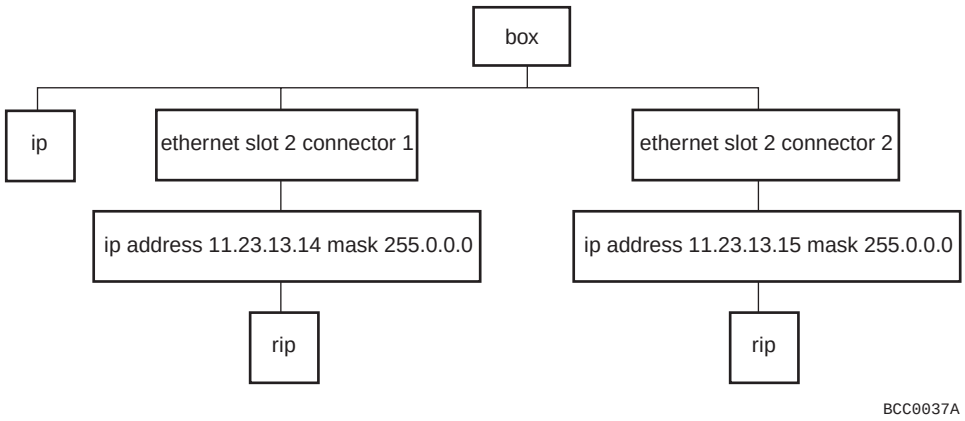

Figure 1. Hierarchy of BCC Objects

Sample Session

To create the sample configuration shown in Figure 1 on a BN router with an Ethernet link module in slot 2, enter the following BCC commands. Notice how each BCC prompt contains the BCC identifier of the object just configured.

Command	Comment
`box#` **ethernet slot 2 connector 1**	Configures ethernet 2/1 using a fully specified interface location.
`ethernet/2/1#` **ip 11.23.13.14/8**	Configures ip/11.23.13.14/255.0.0.0 using a decimal mask value. The BCC automatically configures the global ip object when you configure the first ip interface on the box.
`ip/11.23.13.14/255.0.0.0#` **rip**	Configures RIP on ip/11.23.13.14. No parameter values are required.
`rip/11.23.13.14#` **back**	Moves back one level closer to box or root level.
`ip/11.23.13.14/255.0.0.0#` **back 2**	Moves back two levels to box level.
`box#` **eth 2/2**	Configures ethernet 2/2 using abbreviated syntax. (Slashes between required parameter values only.)
`ethernet/2/2#` **ip address 11.23.13.15 mask 255.0.0.0**	Configures ip/11.23.13.15/255.0.0.0 using dotted-decimal notation for the mask value.
`ip/11.23.13.15/255.0.0.0#` **rip**	Configures RIP on ip/11.23.13.15/255.0.0.0.
`rip/11.23.13.15#` **box**	Jumps to root level. You can use this command from any location in the object hierarchy.

Useful BCC Commands

Command	Function
?	Display a list of the objects that you can configure next. Use **?** to see whether you need to configure other objects under the current context.
back	Move back up a level in the object hierarchy.
bcc	Start the BCC from the Technician Interface prompt.
box (AN, BN, and ARN)	Return to the top level in the object hierarchy.
config	Enter BCC configuration mode from the bcc> prompt.
disable	Disable the object at your current location in the object hierarchy.
enable	Enable the object at your current location in the object hierarchy.
exit	Exit configuration mode. Enter **exit** again to exit the BCC.
help tree -all	Display the entire hierarchy of objects that you can configure using the BCC.
history	Display the command history list.
info	Display the parameters and their values for the current object.
lso	Display all objects configured on this object.
pwc	Display the path from the box or stack prompt to your current working location in the object hierarchy.
save config *<vol>:<filename>*	Save the active configuration as a bootable configuration file on the router's flash memory card. Save boot configuration files with a test name before saving them with the router's default file name, *config*.
show config -all	Display all the objects currently configured.
stack (ASN and System 5000)	Return to the top level in the object hierarchy.
*<obj>***/***<req_val>***/***<req_val>...*	Enter the object name plus any required parameter values to move to an existing object. This combination is called the *instance.* The BCC uses the instance to uniquely identify a specific object in the object hierarchy. For example, enter **ethernet/2/1** to move to the ethernet object on slot 2, connector 1.

Command Shortcuts

- To recall any command from the history list, press the up arrow (or Control-p) or the down arrow (or Control-n).
- Enter the first few letters of any command and press [Return]. The BCC automatically completes any command for which it finds a unique match in the current context. Otherwise, the BCC displays choices or an error message based on your partial entry.
- To reduce typing, use commands such as **lso** to display existing objects and then copy and paste their *instance ID,* for example, **ip/192.33.16.4/255.255.255.248**.

Help Tips

- To see an overview of the Help system, enter **help** or **help help**
- To see a list of all system (nonconfiguration) commands, enter **help commands** or **help commands -more**
- To see Help for a specific command, enter **help** *<command>*, for example, **help compact** or **help ip**
- To see text definitions for the parameters of any object, enter **help** *<object_name>*, for example, **help ip**
- To see text definitions for a parameter of the object at your current location in the object hierarchy, enter **help** *<parameter_name>*, for example **help bofl**
- When the BCC displays a list of choices for **help** on a configuration object, copy and paste the command line that best describes the path from root to that object, for example, **help box ip** (global IP) or for interface IP, **help box ethernet ip** or **help box serial ppp ip**

Show Command Syntax

To display a list of show commands from any level in the BCC object hierarchy, enter **show** *<protocol>* **?**. To learn more about any show command option and its syntax, use the question mark (**?**) command, as follows:

```
bcc> show ppp ?
       alerts       disabled  interfaces   ipx    lqr
       bad-packets  enabled   ip           line
bcc> show ppp lqr ?
       config       stats
bcc> show ppp lqr config ?
       show ppp lqr config[-name <arg>] [-slot <arg>]
```